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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/577,487	05/25/2000	Thomas S. Heath	3351-042	6601

7590

07/27/2004

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EXAMINER

YODER III, CHRISS S

ART UNIT

PAPER NUMBER

2612

DATE MAILED: 07/27/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/577,487

Applicant(s)

HEATH, THOMAS S.

Examiner

Chriss S. Yoder, III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,7-10 and 12-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,7-10 and 12-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 May 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claim 1-4, 7-10, and 12-15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-4, 7-10, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burt et al. (US Patent # 6,999,662) in view of Yagi et al. (US Patent # 6,268,884) and further in view of Takiguchi et al. (US Patent # 6,549,681).
2. In regard to claim 1, note Burt discloses the use of a computer implemented method comprising extracting a first and a second individual frame of imagery from a series of video frames (column 17, lines 38-41; and figure 2B; the images are taken sequentially, a first and second individual frame), determining regions of interest in order to overlap two images (column 17, lines 45-47), identifying commonality from the first frame to the second frame (column 17, lines 45-47), and overlapping the individual frames based on the commonality identified from the first and second frames (column 17, lines 45-47) and displaying an image representing a continuous area (column 4, lines 55-60).

Therefore, it can be seen that the Burt device fails to detect edges of an object in the first and second frames and the correlation of regions of interest by comparing each region of interest to each other region of interest. Yagi discloses the detection of the edge of an object by detecting changes in the intensity from one pixel to another (column 5, lines 21-24; after detecting the brightness values, the outline of the image is created). Yagi teaches that the detection of the edge of an object by detecting changes in the intensity from one pixel to another and drawing a line at the detected edge is preferred in order to outline the objects to compensate for the roughness of edges (column 5, lines 50-55). Takiguchi discloses the correlation of regions of interest by comparing each region of interest to each other region of interest (column 32, lines 45-67; the correlation is done using the comparison of regions from one frame to the next; and figures 47, 49, and 50). Takiguchi teaches that the correlation of regions using comparison is preferred in order to ensure that the correct regions are going to be overlapped to accurately create the correct mosaic (column 31, lines 60-65). Therefore, it would have been obvious to one of ordinary skill in the art to modify the Burt device to include the use of edge detection of an object in the first and second frames and the correlation of regions of interest by comparing each region of interest to each other region of interest as suggested by Yagi and Takiguchi.

3. In regard to claim 2, note Burt discloses the use of a computer implemented method comprising extracting individual frames of imagery taken from video, identifying commonality from one frame to the next, and overlapping the individual frames and displaying an image representing a continuous area.

Therefore, it can be seen that the Burt device lacks the use of a camera that takes images at 30 frames per second. Official notice is taken that the concepts and advantages of using a camera that takes images at 30 frames per second are notoriously well known and expected in the art. Therefore, it would have been obvious to one of ordinary skill in the art to modify the Burt device to include the use of a video camera that takes images at 30 frames per second in order to allow the video to also be displayed on a conventional television.

4. In regard to claim 3, note Burt discloses the use of MPEG compression to store the images (column 15, lines 3-6).

5. In regard to claim 4, note Burt discloses the conversion of MPEG files into black and white images (column 5, lines 7-12).

6. In regard to claim 7, note Burt discloses the compensation of platform/camera motions (column 19, lines 12-15).

7. In regard to claim 8, note Yagi discloses the detection of the edge of an object (column 5, lines 21-24; and figure 5), follow adjacent pixels until an off pixel is detected (column 5, lines 21-24; and figure 5), and repeating the process for the entire image (column 5, lines 21-24; and figure 5). And Takiguchi discloses the counting of pixels and comparing the total to a threshold (figure 28: S1303-S1304; if the number of pixels is greater than the threshold, then continue with the image overlapping, otherwise look for other structures).

8. In regard to claim 9, note Yagi discloses the storage of the location of on pixels within each designated structure (column 6, lines 10-15).

9. In regard to claim 10, note Yagi discloses the creation of a line in the image to distinguish where the structure is located (column 5, lines 21-24; column 5, lines 50-55; it would be implied that in the process of creating this line the pixel values are changed in order to compensate for the roughness of edges, thereby avoiding the use of these pixels in future structures).

10. In regard to claim 12, note Takiguchi discloses the calculation of a centroid for each region of interest in the first frame (figure 47: A-1), comparing the centroid in the first frame with the centroids in the next frame (column 32, lines 45-67), selecting the centroid in the second frame within an error tolerance (column 32, lines 45-56), correlating an average distance from every pixel in the first frame with corresponding structure in next frame (column 32, line 45 – column 33, line 17), and determining the most consistent distance between a region of interest in the first frame and a corresponding region of interest in the second frame (column 32, line 45 – column 33, line 17), and overlapping is performed based on the determined most consistent distance (column 32, line 45 – column 33, line 17).

11. In regard to claim 13, this is an apparatus claim, corresponding to the method in claim 1. Therefore, claim 13 has been analyzed and rejected as previously discussed with respect claims 1.

12. In regard to claim 14, this is an apparatus claim, corresponding to the method in claim 1. Therefore, claim 14 has been analyzed and rejected as previously discussed with respect claims 1.

13. In regard to claim 15, this is an apparatus claim, corresponding to the method in claim 1. Therefore, claim 15 has been analyzed and rejected as previously discussed with respect claims 1.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chriss S. Yoder, III whose telephone number is (703) 305-0344. The examiner can normally be reached on M-F: 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The

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fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CSY
July 15, 2004


TUAN HO
PRIMARY EXAMINER